

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A magnetoresistive head comprising:
a lower magnetic shield formed above a substrate;
a magnetic domain control underlayer formed above the lower magnetic shield;
a multi-layered film formed above the magnetic domain control underlayer, the multi-layered film comprising an underlayer, a free layer, a non-magnetic layer, a pinned layer, and an anti-ferromagnetic layer for pinning a magnetizing direction of the pinned layer;
a magnetic domain control film formed above and being in contact with the magnetic domain control underlayer, said magnetic domain control film being in contact with both of lateral ends in the direction of the track width of the free layer, for conducting magnetic domain control of the free layer;
a pair of electrode films for supplying an electric current to the multi-layered film; and
an upper magnetic shield formed above the multi-layered film and the electrode film.
2. (currently amended) A magnetoresistive head comprising:
a lower magnetic shield formed above a substrate;
a magnetic domain control underlayer formed above the lower magnetic shield;
a multi-layered film formed above the magnetic domain control underlayer, the multi-layered film comprising an underlayer, a free layer, a non-magnetic layer, a pinned layer, and an anti-ferromagnetic layer for pinning a magnetizing direction of the pinned layer;
a magnetic domain control film formed above and being in contact with the magnetic domain control underlayer, said magnetic domain control film being in contact with

both of lateral ends in the direction of the track width of the free layer, for conducting magnetic domain control of the free layer;

a dielectric film formed above the magnetic domain control film; and
an upper magnetic shield formed above the multi-layered film and the dielectric film.

3. (previously presented) The magnetoresistive head of claim 1 wherein the magnetic domain control underlayer is formed of a non-magnetic material selected from one or more of Cr, Ti, W, Mo, V, Mn, Nb, and Ta.

4. (original) The magnetoresistive head of claim 1 wherein a relation between a film thickness of the magnetic domain control underlayer defined as t_{UL} , and a distance between the upper end of the magnetic domain control underlayer and the lowermost portion of the magnetic domain control film defined as OM is: $0 \leq OM \leq t_{UL}$.

5. (original) The magnetoresistive head of claim 1 or 2 or 3 or 4 wherein the relation between t_{UL} and OM is: $0.8 \leq OM \leq t_{UL} \cdot 2.2$.

6. (withdrawn) A method of manufacturing a magnetoresistive head comprising:

depositing a lower magnetic shield on a substrate;
depositing a magnetic domain control underlayer on the lower magnetic shield;

forming, on the magnetic domain control underlayer, a multi-layered film comprising an underlayer, a free layer, a non-magnetic layer, a pinned layer, and an anti-ferromagnetic layer for pinning the magnetizing direction of the pinned layer in one direction;

forming a resist layer on a portion of the multi-layered film;
removing portions of the multi-layered film and the magnetic domain control underlayer not covered with the resist layer;

depositing a magnetic domain control film on the lateral side in the direction of the track width of the multi-layered film and on the magnetic domain control underlayer on both sides thereof;

depositing an electrode film on the magnetic domain control film;
removing the resist layer; and
forming an upper magnetic shield on the electrode film and the multi-layered film.

7. (withdrawn) The method of manufacturing a magnetoresistive film of claim 6, and further comprising heating the substrate.

8. (withdrawn) A method of manufacturing a magnetoresistive head comprising:

depositing a lower magnetic shield on a substrate;
depositing a magnetic domain control underlayer on the lower magnetic shield;

forming, on the magnetic domain control underlayer, a multi-layered film comprising an underlayer, a free layer, a non-magnetic layer, a pinned layer, and an anti-ferromagnetic layer for pinning the magnetizing direction of the pinned layer in one direction;

forming a resist layer on a portion of the multi-layered film;
removing portions of the multi-layered film and the magnetic domain control underlayer not covered with the resist layer;

depositing a magnetic domain control film on the lateral side in the direction of the track width of the multi-layered film and on the magnetic domain control underlayer on both sides thereof;

depositing a dielectric film on the magnetic domain control film;
removing the resist layer; and
forming an upper magnetic film shield on the electrode film and the dielectric film.

9. (withdrawn) The method of manufacturing a magnetoresistive film of claim 6 or 7 or 8 wherein said removing includes milling.

10. (withdrawn) The method of manufacturing a magnetoresistive film of claim 9 wherein said milling is ion milling.